Amendments to the Specification

Please delete the paragraph beginning at page 3, line 14 through line 33 which starts with "A method of the kind"

Please add the following new paragraph at page 3, line 14:

A method of estimating equivalent circuit parameter values of an induction motor is known from a paper in EPE'97 by Godbersen et al., Danfoss Drives A/S, Denmark, pages 3.370 to 3.374. According to this method a number of measurements and calculations are made and evaluated in accordance with a conventional equivalent diagram (Figure 1 of the paper) of an asynchronous motor. That equivalent diagram is substantially as shown in Fig. 2 of the drawings of the present application. By the method presented in the paper, all the desired parameter values of the motor except the ohmic rotor resistance R_r will be obtained. The paper does not describe in detail how to calculate the ohmic rotor resistance from the parameters obtained. Furthermore the applicants have found that, even though it is possible in principle to calculate the ohmic rotor resistance from the parameter values obtained with the method presented in the paper, the resistance value as actually calculated from those parameter values has too large an error.

Please delete the text beginning at page 3, line 25 through page 5, line 11.

Please delete the paragraph beginning at page 8, line 20 through line 31, which starts with "As the determination".

Please insert the following new paragraphs at page 8, line 20:

The invention is a combination of measurements and calculations made with reference to the conventional equivalent diagrams of an asynchronous motor as shown in the Figs. 1 and 2 of the enclosed drawings, Fig. 1 showing a detailed steady-state equivalent circuit, and Fig. 2 a simplified equivalent diagram calculated (referred) to the stator side by means of the effective number of turns. By way of example, and not to be interpreted in a limiting way, the following initial steps are performed:

1. A testing voltage U_{sa} in the form of a predetermined direct voltage is applied on the stator, more precisely on the phase winding of the stator, and the resulting stator current I_{sa} is measured. As the inductive reactances (inductances) of the stator-side leakage inductance $L_{\sigma s}$ and the main inductance L_m (counter inductance) present a short-circuit to any direct current, the ohmic stator resistance R_s can then be calculated from the values U_{sa} and I_{sa}.

2. Then the sum of the leakage inductances $L_{\sigma s}$ and $L_{\sigma r}$ referred to the stator, the "transient" inductance L'_s, is measured and calculated as follows, reference being made in this respect to Fig. 2: A short rectangular voltage pulse, having a high content of high-frequency components, with a duration of a few mill-seconds and an amplitude U_{sa} is applied to the stator, so that the inductance of the main inductance L'_m according to Fig. 2 at these high frequencies is so large that the current flowing through L'_m is neglectible. Then, the rear flank of the curve of the current I_{sa} produced by this impulse is sampled. The time constant $L'_s/(R_s$

$+ R'_r$) and the differential quotient dI_{sa}/dt are calculated on the basis of the sampled values. L'_s is then calculated by means of the equation $U_{sa} = R_s I_{sa} + L'_s(dI_{sa}/dt)$.

3. Then a voltage is applied to the stator with such a low frequency that the current I_{sy} flowing through the rotor is neglectible and the stator current I_{sa} is practically equal to the magnetising current I_m flowing through the main inductance. Since the ohmic stator resistance R_s was determined in step (1) and the current I_{sa} can be measured, the stator inductance L_s (= $L_m + L_{\sigma s}$) can be determined. This determination of the stator inductance is repeated several times at different D.C. offset currents. Further, the dynamic main inductance L'_{Dm} (also called differential main inductance) referred to the stator side is determined by measurement and from this the value L_{Dm} can be calculated. The referred dynamic main inductance is determined as follows: a testing voltage, consisting of a direct voltage with a superimposed alternating voltage, is applied to the stator, and the resulting alternating current (in the working point determined by the direct current) is measured. This measurement is made at different premagnetising direct currents (working points).

Thus the ohmic stator resistance R_s, the leakage inductances $L_{\sigma s}$ and $L_{\sigma r}$, and the main inductance L_m have been determined according to the process steps 1), 2) and 3) above, based on a transformation of the motor parameters, assuming an effective number of turns per phase on the rotor side, into the parameters on the stator side provided with raised comma according to Fig. 2. Now follows a detailed description of the determination of the ohmic rotor resistance R_r of the asynchronous machine. Besides the three steps mentioned above, a fourth step is required for the determination of the ohmic rotor resistance R_r.

Please replace the paragraph beginning at page 9, lines 10 through 11 with the following amended paragraph:

~~Further, it applies per se for the ohmic rotor resistance referred to the stator side~~ Further as is commonly known in the field of induction motor technology, the following relation applies to the ohmic resistance referred to the stator side, Figs. 1 and 2:

Please replace the paragraph beginning at page 9, lines 15 through 19 with the following amended paragraph:

In this equation L_r is equal to Lm + $L_{\sigma r}$ and s stands for the slip of the asynchronous machine. As, during standstill of the asynchronous machine, the slip s is 1 and the measurements are made by using the dynamic main inductances, it can be shown by applying the rules of transformation of equivalent diagrams which are commonly known in the field of induction motor technology that:

Please replace the paragraph beginning at page 10, lines 5 through 8 with the following amended paragraph:

As mentioned above, L'_{Dm} was measured in step 3) and from this L_{Dm} was calculated. By means of equations (4) through (7) listed below, the interrelation between L'_{Dm} and L_{Dm} will be further elaborated.

Please replace the paragraph beginning at page 11, lines 1 through 3 with the following amended paragraph:

~~From the generally known relationship, that~~ From the relationship generally known in the field of induction motor technology, that $L'_{Dm} = L^2_{Dm}/(L_{Dm}+L_{\sigma r})$ equation 7 can be developed and from this L_{Dm} is calculated from L'_{Dm}:

Please replace the paragraph beginning at page 13, line 32 through page 14, line 14 with the following amended paragraph:

In step 3) of the already mentioned measurement process, the transient dynamic inductance L'_{Dm} was measured in several working points and used for calculating L_{Dm}. Based on these values, all other values must also be expressed as dynamic values. However, with regard to equation (3), the problem occurs that R'_r must be determined through U'_m/I'_{sy}. According to equation (8), U'_m depends on, among other things L'_s. However, L'_s is a static inductance, and as it is not known, how this static inductance is distributed between the leakage inductances $L_{\sigma s}$ and $L_{\sigma r}$, the transient dynamic inductance L'_{Ds} cannot be calculated. For a completely accurate calculation of the ohmic rotor resistance, however, the transient dynamic inducatnce L'_{Ds} should be used ~~in stead~~ instead of the static inductance L'_s. To solve this problem, the measurement is made at a direct current, at which the static main inductance L_m is equal to the dynamic main inductance L_{Dm}. The static transient inductance L'_s can, ~~per se~~ according to the common knowledge in the field of induction motor technology, be expressed as follows:

Please replace the section beginning at page 14, lines 18 through 19 with the following amended section:

and the dynamic transient inductance L'_{Ds}, ~~per se~~ according to the common knowledge in the field of induction motor technology, as follows:

In The Abstract

Please delete the Abstract on page 24 and replace with the attached new Abstract.